

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-019156**Date Inspected:** 05-Jan-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Orthotropic Box Girders**Summary of Items Observed:**

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the project site and observed the following work performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below:

- A). Lifting Lug Holes
- B). QC Inspection Request
- C). Pipe Supports
- D). Miscellaneous Tasks

A). Lifting Lug Hole

The QAI observed the QC inspector perform the field fit-up of the weld joints identified as WN: 2W-PP17-W3, Weld No.'s W1 and W2 located along the grid line W3 of the OBG identified as W2. At the conclusion of the inspection the QC inspector accepted the fit-up and alignment of the weld joints. The welding was performed by the welder, Darcel Jackson ID-9967, utilizing the Shielded Metal Arc Welding (SMAW) process and the 4.8 mm, E7018 H4R electrode as per the Welding Procedure Specification (WPS) ABF-WPS-D15-1070A, Rev. 1. The WPS was also utilized by the QC inspector, Mike Johnson, as a reference to monitor the welding and to verify the welding parameters. The QC verification of the welding parameters was observed by the QAI and recorded as 249 amps and the minimum preheat temperature of 60 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius was also verified by the QAI. The welding was performed in the flat (1G) position with the weld joint in an approximately horizontal plane and the weld metal deposited from the upper side. The CJP welding was completed not during this shift and appeared to comply with contract specifications.

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The QAI also observed the welder, Mike Jiminez ID-4671, perform the Complete Joint Penetration (CJP) groove welding of the Lifting Lug Hole (LLH) identified as WN: 2W-PP15-W4-Weld No. 1 located along the grid line W4 of the OBG identified as W2. The welding was performed utilizing the Shielded Metal Arc Welding (SMAW) process and the 4.0 mm, E7018 H4R electrode as per the Welding Procedure Specification (WPS) ABF-WPS-D15-1070A, Rev. 1. The WPS was also utilized by the QC inspector, Mike Johnson, as a reference to monitor the welding, verify the welding parameters and to inspect the field fit-up. The QC verification of the welding parameters was observed by the QAI and recorded as 151 amps and the minimum preheat temperature of 60 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius was also verified by the QC inspector. The welding conducted during this shift was performed in the flat (1G) position with the work in an approximately horizontal plane and the weld metal deposited from the upper side of the weld joint. The welding was not completed during this shift and appeared to be in compliance with the contract specifications.

Later in the shift, the QAI observed the welder Salvador Sandoval ID-2202 perform the CJP welding of the weld joint identified as WN: 5E-PP31-E4-W1. The welder utilized the SMAW process and the 3.2 mm electrode as per the WPS identified as ABF-WPS-D15-1070A, Rev. 1. The WPS was also utilized by the QC inspector, Mike Johnson, as a reference to monitor the welding and to verify the welding parameters. The QC verification of the welding parameters was observed by the QAI and recorded as 133 amps and the minimum preheat temperature of 60 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius was also verified by the QAI. The welding was performed in the flat (1G) position with the weld joint in an approximately horizontal plane and the weld metal deposited from the upper side. The CJP welding was not completed not during this shift and appeared to comply with contract specifications.

B). QC Inspection Request

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, the QAI randomly verified the QC visual inspection of the Complete Joint Penetration (CJP) welding of the following longitudinal stiffeners; WN: 8E-PP61.5-E2-LS-West, WN: 8E-PP61.5-E2-LS-West and WN: 8E-PP61.5-E2-TS . The QAI verification was performed to verify that the welding and visual weld inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QAI verification it appeared that the welds and the QC inspection complies with the contract documents.

C). Pipe Supports

The QAI observe the on going installation, field fit-up and tack welding of the pipe supports along the W5 grid line located on top side of the OBG's identified as W7, W8 and W9 "A" deck. The QC inspection was performed by Mike Johnson utilizing the Welding Procedure Specification (WPS) identified as Fillet Murex to monitor the tack welding and to verify the welding parameters. The welding parameters were observed and recorded as 92 amps utilizing 2.4 mm electrodes with the welding performed in the 2F and 3F position. The tack welding was performed by Rick Kiikvee ID-5319 and David Garcia ID-8789.

D). Miscellaneous Task

This QAI also performed a review and update of the project progress utilizing QA field reports and NDT reports.

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The updated project information was documented into the various QA tracking logs.

QA Observation and Verification Summary

The QA inspector observed the QC activities and the welding of the field splices utilizing the WPS as noted above, which appeared to be posted at the weld station. The welding parameters and surface temperatures were verified by the QC inspector and utilizing a Fluke 337 clamp meter for the electrical welding parameters and a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. The ESAB consumables utilized for the SMAW welding process appeared to comply with the AWS Specification and AWS Classification. The QC inspection, testing and welding performed on this shift appeared to be in general compliance with the contract documents. At random intervals, the QAI verified the QC inspection, testing, welding parameters and the surface temperatures utilizing various inspection equipment and gages which included a Fluke 337 Clamp Meter and Tempilstik Temperature indicators.

The digital photographs below illustrate some of the work observed during this scheduled shift.



Summary of Conversations:

There were general conversations with Quality Control Inspector Bonifacio Daquinag, Jr. at the start of the shift regarding the location of American Bridge/Fluor welding, inspection and N.D.E. testing personnel scheduled for this shift.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer
